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FEB 26 2008

Docket No. 033171-146

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	Confirmation No. 6508
Oliver Horn et al.)	Group Art Unit: 3744
Application No.: 10/780,119)	Examiner: John K. Ford
Filed: 02/17/2004)	
For: AIR-CONDITIONING SYSTEM)	
FOR A MOTOR VEHICLE)	

DECLARATION OF ROBERT LANG

I, Robert Lang, declare that:

1. I hold a mechanical engineering degree (Diplom Ingenieur allgemeiner Maschinenbau) and for the past eight (8) years I have been an employee of Webasto, AG, the assignee of the above-captioned patent application (hereafter, "The Horn Application"), four years as Chief Engineer Commercial Vehicles and currently am the Head of Technical Department Commercial Vehicles. During the course of my employment at Webasto AG, I have participated in the development and vehicle integration of parking heating and parking cooling systems for commercial vehicles (trucks and buses), and in the development of HVAC systems for Iveco Stralis and Mercedes Benz Atego.

2. I have reviewed The Horn Application including the Office Action mailed August 23, 2007 (hereafter, "The Office Action"), and the Khelifa U.S. Patent No. 6,260,376 (hereafter, the "Khelifa Patent"), the Kang International Patent Application Publication No. WO 01/40005 A1 (hereafter, the "Kang Publication") and Herta U.S. Patent Application Publication No. 2002/0100290, as well as the attached amended version of the claims of The Horn Application (hereafter, "The Claims"). The Khelifa Patent, The Kang Publication and the Herta Publication are collectively referred to below as the "Prior Art."

3. I have noted that the Examiner has indicated in The Office Action that he considers claims 15 & 16 to be unsupported by the original disclosure which he believes does not indicate that "the battery is selectively used in lieu of the generator." However, one of ordinary skill would not view these claims as requiring the battery be "selectively used in lieu of the generator," but rather would view them consistent with paragraph [0022] of The Horn Application which states that:

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The electrically driven compressor can, however, also be fed electrical energy in other ways, for example by means of a fuel cell or some other element which outputs electrical energy, for example a battery. In this context, the electrical energy can be fed to the electrically driven compressor from any desired combination of the elements which are specified by way of example.

That is, that compressor can be powered, as "desired," by any of the mentioned power sources, either by themselves or in any combination of them. Furthermore, those skilled in the art would recognize that whenever multiple power sources are available for use "as desired," they can be selected individually or in combination to provide electrical energy to a power consumer, such being implicit in the quoted statement of paragraph [0022] of The Horn Application.

4. The Examiner has indicated in The Office Action that he considers claims 1, 2, 7, 8, 15, 16, 18-21, 29 & 30 to be unpatentable because he believes that the subject matter of these claims is obvious from the combined teachings of The Khelifa Patent and the Kang Publication. However, based upon my knowledge and experience, a person of ordinary skill in this technology would not find the subject matter of The Claims to be obvious from anything disclosed in these two documents for the following reasons:

A. The system of the claimed invention has only a pump and heat exchanger in operation during engine off mode ("second operational mode" of the claims) so that, in this mode, the system does not rely on the compressor and evaporator to keep the system cool when the engine is not running, so that much less energy is needed to run the system (as compared to the system of The Khelifa Patent).

B. The Khelifa patent discloses two circuits for cooling, the first/primary has a condenser and evaporator and creates cool air while the vehicle is running. The evaporator of this primary loop uses only the cool air from the evaporator to cool the cabin while the truck is in motion, and it also connects to the second loop, where the cool air from the evaporator can be stored in the latent cold storage. No refrigerant is used in this circuit and it relies solely on the evaporator for all cooling.

C. The arrangement of the latent cold storage unit of The Horn Application is different because it is located between the refrigerant loop and the heat exchanger loop, so the design is much more complex than that of The Khelifa Patent due to the handling of the two types of cooling loops (one which cools using a refrigerant loop having a compressor and

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evaporator and another that uses a pump and latent cold storage unit) and due to the recharging of the latent cold storage unit with the refrigerant loop. Persons designing a system would not find it obvious to make the system of The Khelifa Patent more complex without a benefit associated with the added complexity and no such benefit would be apparent from the Prior Art.

D. The Kang Publication discloses a cooling circuit for a hybrid that uses a highly controlled electrical system for reduced power consumption, and also implements fewer components to operate the cooling system. The system uses only a compressor, condenser and evaporator. It does not have any latent cold storage nor any expansion valves to control the system in engine on/off mode. Instead, this system uses refrigerant based (gaseous) means to cool the system. The air is circulated via an electronic pump/motor control that regulates the electrical consumption of the components.

The Kang Publication does not teach to store cold in a latent storage component and to use a pump to circulate the air through a heat exchanger for cooling purposes as in the The Horn Application. Furthermore, The Horn Application does not have a highly advanced motor control (battery power system) and the engine does not run at all in the second mode while in the Kang Publication, the motor may run if the power consumption is needed for additional cooling.

E. The Khelifa Patent relies solely on an evaporator for cooling the cabin and for charging the latent storage with cold air. The KANG system also relies on an evaporator that evaporates coolant and exchanging it with ambient air. The system of The Horn Application only enables the evaporator in the engine on mode, but in engine off mode, the air is continuously cooled by circulating the flow from the latent cold storage unit to the heat exchanger. No additional components are used and cooling that is produced in the engine on mode is used in the engine off mode without further charging from an evaporator. Thus, the system of The Horn Application has the disadvantage of not being able to employ the cooling from the evaporator, but by sufficiently cooling the storage unit to a very low temperature, use of an evaporator is unnecessary. Thus, additional power is not needed for powering the evaporator and a complicated power control system is also not needed because in the engine off mode the cooling occurs by air/liquid flow through the cold storage unit. The use of a latent cold storage unit in accordance with The Horn Application is also different because it is located between the refrigerant loop and the heat exchanger loop, so the design is much more complex

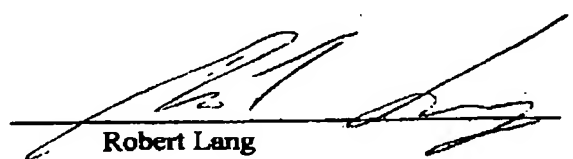
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due to the handling of the two types of cooling loops and also to recharge the storage with a refrigerant loop.

F. One skilled in the art would not think that the Khelifa Patent and Kang Publication in combination disclose the subject matter of The Claims of The Horn Application because the KANG system relies on advanced power control for saving energy and uses a refrigerant means to cool. The Khelifa Patent may disclose a latent cold storage unit, but the function of the unit is much less complicated and it also requires the constant support of the evaporator. One would not automatically think to apply the teachings relating to a highly advanced electric control system to yield a system that uses a latent cold storage unit that runs out of cold so that, then, the driver is out of luck (because the compressor is inoperative in accordance with The Horn Application). It is counterintuitive because the energy control system of the Kang Publication has the goal to reduce the number of components in the vehicle and make the mechanical function electronically controlled, addition of a latent cold storage adds a mechanical component and requires the use of additional components for the heat exchange and cooling process thereby counter acting the goal of the KANG system. Likewise, putting the latent cold storage as the two loop interface for cooling the system in engine on/off mode is also counterintuitive in light of the prior art, because the system requires further mechanical control of the system and two different systems (heat exchange and refrigerant). The system of The Horn Application implements because the latent cold storage component handles both systems, and because the function of the latent storage unit is completely different from that of The Kelifa Patent. The Horn Application design avoids any complicated electronic controls and does not rely on the electronic power system to enable the evaporator when more cooling is needed in a "power save mode".

All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

February 25, 2008
Robert Lang